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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,797	03/27/2001	Michael Hermann	741124-79	8356

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EXAMINER

CHANG, AUDREY Y

ART UNIT PAPER NUMBER

2872

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,797

Applicant(s)

HERMANN, MICHAEL

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on December 1, 2003, which has been entered.
- By this amendment, the applicant has amended claims 1-4.
- The rejections and objection to claim 2 concerning the phrase "*transmitting mirror*" set forth in the previous Office Action **still holds**. Applicant's argument only gives support for a "**partially** transmitting mirror".
- The objections to claims, other than the issues stated above, are withdrawn in response to applicant's arguments.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 and 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Holzl (PN. 5,026,998) in view of applicant admitted prior art.**

Holzl teaches an *alignment measurement mechanism* for measuring the relative positions between *two shafts* (1 and 2), *serves as the two elements*, wherein the mechanism comprises a *light source* (8) for generating a light beam (s) that incidents on a first and second *opto-electronic detectors* (9 and 10, Figures 2 and 3) that are connected to the second shaft (2). The two opto-electronic detectors are two-dimensional readable sensors that each generates two dimensional position signals as shown in Figure 2.

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Holzl further teaches that a *data converter* (3) and a *computer* (4), serve as the *electronic means and computer*, are included for processing the detected positional signal of the detectors to measure the relative position of the two shafts. The two dimensional position signals generated by each of the position detector are corresponding to the **incident points** of the light on each of the detector. The calculating electronics for computing the relative positions from the detected signals are implicitly included to determine the relative positions. It is implicitly true that only portion of the light incident on the first opto-electronic detector will reach the second opto-electronic detector.

This reference has met all the limitations of the claim with the exception that it does not teach explicitly the arrangement of having the light incidents on the first detector is *reflected instead of transmitted* to the second detector. However it is implicitly true that whether the light incident on the second detector is reflected or transmitted from the first detector the **operational principle** for obtaining the relative position between the two shafts or elements do not change. Since the principle is based on calculating the positional signals detected by the two detectors about the incident points of the light on the two detectors, the modification or the difference, concerning either reflecting or transmitting light from one detector to the other detector, does not change the function of detecting and calculating the relative positions of the two shafts. This difference is therefore considered as an obvious matters of design choice to one skilled in the art for the benefit of providing different design for the measurement mechanism. Furthermore, **applicant admitted prior art** teaches that a **reflective** type opto-electronic sensor such as CMOS sensor circuit is *commercially available*, (please see page 5 lines 14-20 of the specification). It would then have been obvious to one skilled in the art to use a reflective type of detector to make the light reflected from the first detector to the second detector for the benefit of providing a more compact system.

With regard to the housing, the references do not teach such explicitly however it would have been obvious to one skilled in the art to use a housing for the detectors for the benefit of blocking out unwanted light to reach the detectors so that the detectors detect the signals more accurately.

3. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Holzl in view of applicant admitted prior art and Cruz (PN. 4,243,877).**

Holzl teaches an *alignment measurement mechanism* for measuring the relative positions between *two shafts* (1 and 2), *serves as the two elements*, wherein the mechanism comprises a *light source* (8) for generating a light beam (s) that incidents on a first and second opto-electronic detectors (9 and 10, Figures 2 and 3) that are connected to the second shaft (2). The two opto-electronic detectors are two-dimensional readable sensor that each generates two dimensional position signals as shown in Figure 2. Holzl further teaches that a data converter (3) and a computer (4), serve as the electronic means and computer, are included for processing the detected positional signal of the detectors to measure the relative position of the two shafts. The two dimensional position signals generated by each of the position detector are corresponding to the incident points of the light on each of the detector. The calculating electronics for computing the relative positions from the detected signals are implicated included to determine the relative positions. It is implicitly true that only portion of the light incident on the first opto-electronic detector will reach the second opto-electronic detector.

This reference has met all the limitations of the claim with the exception that it does not teach explicitly the arrangement having the light incidents on the first detector to be *reflected* instead of transmitted to the second detector. However it is implicitly true that whether the light incident on the second detector is reflected or transmitted from the first detector the **operational principle** for obtaining the relative position between the two shafts or elements **do not change**. Since the principle is based on calculating the positional signals detected by the two detectors about the incident points of the light on the two detectors the modification or the difference, concerning either reflecting or transmitting light from one detector to the other detector, does not change the function of detecting and calculating the relative positions of the two shafts. This difference is therefore considered as an obvious matters of design choice

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to one skilled in the art for the benefit of providing different design for the measurement mechanism. Furthermore, **applicant admitted prior art** teaches that a reflective type opto-electronic sensor such as CMOS sensor circuit is *commercially available*, (please see page 5 lines 14-20 of the specification). It would then have been obvious to one skilled in the art to use a reflective type of detector to make the light reflected from the first detector to the second detector for the benefit of providing a more compact system.

With regard to the feature concerning "reflected via the transmitting mirror", Holzl reference does not teach such explicitly. However partially transmitting mirror is very well known optical element in the art for the purpose of partially transmitting and reflecting light beams as desired, as demonstrated by the teachings of Cruz wherein partially transmitting mirror in beam splitter (16) and partially transmitting mirror element (24) are each being used for the purposes of transmitting/reflecting a portion of the light to the desired locations such as the detectors in the target (22) and/or the detector of (28 and 32). The partially transmitting mirror (24) is particularly used as the target for generating the position signal of the second element to the optical head assembly, (please see Figure 1), and at same time passes position information to the detector (22), (please see Figure 1). It would then have been obvious to one skilled in the art to use the well known partially transmitting mirror as a means to change the geometric arrangement of the opto-electronic detectors as desired to provide other geometric designs for the measurement mechanism.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the

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conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/253,698. Although the conflicting claims are not identical, they are not patentably distinct from each other because they each recited a device for measuring relative position of two elements with a light source and a first and second opto-electronic sensor wherein the light incident on the first sensor is reflected to the second sensor and electronic means for calculating the relative position of the light source with respect to the signals detected by the sensors.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicant's arguments filed on December 1, 2003 have been fully considered but they are not persuasive.

7. In response to applicant's request for considering the foreign references, the applicant is respectfully reminded that only the listed document WO 85/05443 has an English translated abstract. All the other references do not have one and they cannot be considered.

8. In response to applicant's arguments concerning the phrase "transmitting mirror", the applicant is respectfully reminded that the argument only supports for a "partially transmitting mirror".

9. In response to applicant's arguments concerning the cited Holzl reference, the applicant is respectfully reminded that Holzl does teach to use two opto-electronic detectors, with light beam transmitted from one detector to the other, placed on the second element to provide two sets of positional signals to calculate the relative positions between the first and second elements. The applicant is

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respectfully reminded the main issue here is whether the light from the first detector is *transmitted* or *reflected* to the second detector, and the difference DOES NOT amount to a patentable distinction between the cited reference and the instant application. The reflectivity of the opto-electric detector, which is commonly known feature in the art, does not contribute the base for novelty. The transmission mode and the reflecting mode of position measuring mechanism simply does not possess any patentable difference here.

10. In response to applicant's arguments concerning the double patenting rejection between the instant application and the co-pending application 10/253,698, the applicant is respectfully reminded that the double patenting rejection is based on the **non-patentable distinction between the claims of the two applications**. The restriction requirement within the co-pending application has nothing to do with the double patenting rejection between the two cited applications. The applicant is respectfully reminded as long as there is **one** claim in both application that is not patentable distinct, the rejection holds.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

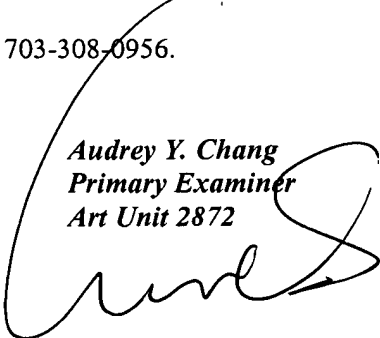
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
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A. Chang, Ph.D.